

Focused inspections in IR

Tool for improvement of occupational radiation protection in industrial radiography (IR)

IAEA/ISEMIR IR Road Map

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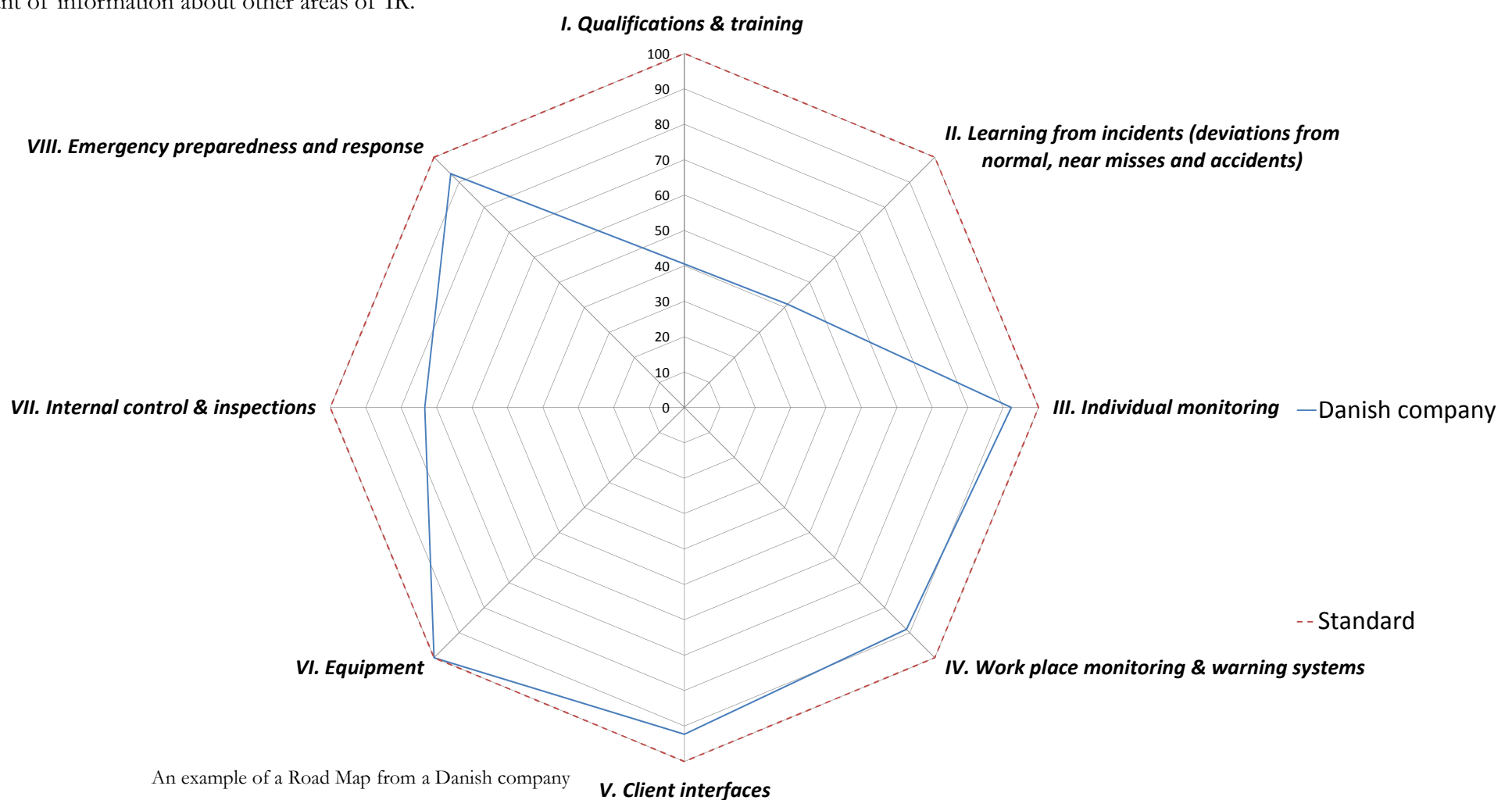
Danish Health and Medicines Authority ▪ National Institute of Radiation Protection (NIRP) ▪ Denmark

1. Introduction

The National Institute of Radiation Protection (NIRP) inspects the different NDT (non-destructive testing) companies in Denmark which works with Industrial Radiography (IR). By incorporation of a new tool from ISEMIR (Information System on Occupational Exposure in Medicine, Industry and Research), which is a network under the IAEA, it is now possible to analyze and benchmark companies against an international standard. This gives rise to a more focused and interventional inspections, where the weak spots of a company's answer in the questionnaire will lead to a more thoroughly inspection on those areas and hereby reduce doses further and hopefully prevent future incidents. The questionnaire provided by ISEMIR also gives a large amount of information about other areas of IR.

2. Road map tool

The tool was made by ISEMIR/IAEA and is developed from a questionnaire (see IAEA-Tecdoc-1747) and the 432 responses from 150 different NDT companies and the regulatory authorities in 31 different countries. From these responses the third quartile value from the distribution of responses or on a value given in an international standard were put as a measure for good practice. Different weightings were applied to questions, depending on their relative importance. The questions were divided into 8 different categories. When the companies have finished the questionnaire they will get a graphic overview on their responses, as seen on the figure in the middle of the poster. Both the regulatory body and the company can hereby get a graph where the score of the company is compared to the international standard.



3. Use in supervision

The questionnaire was sent to all NDT companies in Denmark and a Road Map, as seen on the figure, were made for each company. The National Institute of Radiation Protection could use these Road Maps not only to focus the different inspections of the different companies and compare them to an international standard but also get an overview of the IR area as a whole in Denmark. The companies can also see where they can improve their training, safety protocols etc. in order to reach the international standard. Besides the Road Map, the ISEMIR questionnaire, also gave substantial amount of data on the whole area of IR. Data which allow NIRP to compare requirements and national standards to an international standard on the area of IR.

4. Conclusion

The use of the Road Map tool and the data from the ISEMIR questionnaire appears to become an important new tool on the IR area. On a general level the ISEMIR questionnaire and report provides NIRP with valuable information and documentation on the present state of the IR area. For instance; a) it provides a useful overview of international standards with respect to radiation protection training and qualifications of industrial radiographers, b) it shows the present international average dose for Industrial Radiographers, c) it shows the most common incidents and accidents, which gives a good indication of what to look for during supervision and inspection, and finally d) it provides documentation for a subtle inverse correlation between number of exposures and doses, urging the regulatory authorities to focus inspections on smaller companies with low exposure frequencies.